Bezold in his tests of sharpshooters and hunters, by means of Galton whistles, the left ear being more commonly affected because of its greater exposure to concussion in the use of fire arms. A corresponding decrease in the hearing of high tones has also been observed by Buerchner, in locomotive engineers and firemen, by Habermann, in boilermakers and machinists, and by Gradenigo, in stonemasons and millers. If the upper tone limit (normal, 45,000 v. s.) is lowered, or the duration of hearing for high tones materially decreased, it may be assumed that the hearing for the remaining tones in the scale of audition is not absolutely normal; the larger the participation of the perceptive portion of the labyrinth in an injury, the more the auditory nerve is restricted in its function, the greater will be the limitation of the auditory field; while, in the majority of cases of labyrinth concussion, it is the basis of the cochlea that is injured, it does not follow that remaining portions of the cochlea are similarly implicated, and, if limited portions, or even single fibers, of the auditory nerve remain uninjured, there will be the tone islands and tone spaces described by Bezold; Baginsky, by experiments on dogs, has established the fact, confirmatory of the Helmholtz theory, that after destruction of the base of the cochlea the animals responded only to tones of low pitch, and after destruction of the upper portion of the cochlea, only to tones of high pitch.

HYGIENE AND PUBLIC HEALTH.

UNDER THE CHARGE OF

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Pellagra and its Relation to Maize.—RAUBITSCHEK (*Berliner klin. Wochenschr.*, June, 1910, xxiii, No. 26) seems to have been the first to take up in an experimental way the question as to the effects of exposure to sunlight upon maize-fed animals in association with the question of a possible relation to the etiology of pellagra. Raubitschek furnishes in a recent paper (*Centralbl. f. Bakt.*, 1 Abt., Orig., Band lvii, Heft 3) more detailed experiments which throw important light upon this subject. He notes the immense amount of literature which has accumulated on the etiology of pellagra and condemns severely the very questionable kind of work which has been done in this field. He also comments upon the scanty results of pathologico-anatomical work upon this disease and that modern microbiological, especially serological technique has not to any extent been used in clearing up its etiology. The theories of the etiology of pellagra are considered in three groups—the bacterial, the toxic, and the autotoxic, none of which in its present state can be considered satisfactory. Lavinder points out that Raubitschek fails to take note of the more recent views of a protozoal origin of pellagra. The warning is probably made that if the real cause of pellagra is unknown we must not insist too closely upon bringing the disease into strict causal relation with the use of maize as a food and that if any real progress is to be made the above theories must be tested in a satisfactory experimental way especially upon pellagrins before they can be accepted as of real importance. Raubitschek found it possible to study only briefly the numerous microörganisms which have been isolated from both good and spoiled corn of various workers and presented as the cause of pellagra. Since raw corn is not directly consumed, he deemed the bacteriological investigation of prepared (cooked) food worthy of more consideration than the raw material. He prepared polenta and cakes from both good and bad corn and in a few cases recovered some species of *penicillium* and *aspergillus,* but chiefly the *bacterium maidis.* Usually his cultures were sterile. Blood cultures from the arm vein from pellagrins in all stages of the malady proved constantly and invariably negative. He occasionally found the *bacterium maidis* in pellagra stools. He obtained negative results from the organs a few hours after death. He concluded, therefore, that there exists no basis for a parasitic etiology of the pellagra. Along serological biological lines, Raubitschek looked for a precipitin reaction in the blood serum of pellagrins in all stages of the disease with extracts of maize. The results were always positive. He obtained, however, the same precipitation with both healthy persons and animals. He obtained nothing characteristic with the complement-fixation reaction and negative results in experiments for hypersusceptibility in pellagrins and in healthy persons by means of the ophthalmo- and cutaneo-reactions with various maize extracts. Numerous other experiments upon the phenomena of anaphylaxis in relation to maize antibodies were attempted. He concludes from the work of this section that antibodies specific for maize albumins (both good and bad maize) do not occur in the serum of pellagrins. Raubitschek obtained various extracts from both naturally or artificially spoiled maize which he injected into rabbits, mice, and guinea-pigs in various amounts. These experiments were negative, as were also feeding experiments with these substances. The author then points out that the pellagrous erythema is usually confined to an exposed surface of the body, and thinks that from this it may be inferred either that there is a reduced resistance of the entire body surface and hence exposed parts are unduly sensitive to slight noxious influences as sunlight, or that the influences of a maize diet, in the body surface exposed to sunlight there is developed a noxious substance (Noxe) which produces not only local morbid changes, but also affects the entire organism. It is possible that there may be some relation between a maize diet, sunlight, and pellagra, and reference is made to the work of Aschoff and to the fact that the usual occurrence of pellagra skin changes occur that season when the field laborer is most exposed to the sun. He shows that in buckwheat poisoning (fagopyrismus) in white or spotted animals exposed to light suffer while dark animals or white animals kept in the dark escape. The active photodynamic substance of buckwheat is soluble in organic solvents and seems to be a fat or lipoid. Numerous experiments are shown demonstrating and corroborating these facts. Raubitschek concludes that he has demonstrated the presence of a photodynamic subsubstance in maize and that this material is soluble in alcohol. He does not attempt to bring his experimental results into a strict relation with the etiology of pellagra or to assume for this disease a photodynamic basis, or even to conclude that pellagra is produced by an almost exclusive diet of maize (good or bad). This inference, however, is suggested. Attention is drawn to the effect of a rice diet in animals and the fact that this cereal is also rich in fat and by many is held accountable for a somewhat analogous disease to pellagra, viz., beriberi. Raubitschek finally calls attention to the fact that the possibility should be borne in mind that pellagra and pellagroid affections may be due not only to the use of maize as a food but also to the use of other grains and other plant stuffs which are eaten in various localities. Lavinder (*Public Health Reports*, May 5, 1911) has recently repeated these experiments upon rabbits, guinea-pigs, mice, and rats, with negative results.

The Subsequent Health of Children who Drank Milk Containing Tubercle Bacilli.—Hess (*Jour. Amer. Med. Assoc.*, 1911, li, 1322 to 1324) has continued his studies upon tubercle bacilli in milk. He has made a systematic examination of 18 children covering a period of three years. These children, three years ago, drank milk which was shown to have contained virulent tubercle bacilli. Of the 18 children who drank this milk in which tubercle bacilli were demonstrated, all but one remained free from active tuberculosis during the period of supervision, viz., three years. The one case developing tuberculosis showed tuberculous lesions of the cervical glands in which a bacillus of the bovine type was cultivated. He concludes that tubercle bacilli in milk are a menace to the health of young children. Tubercle bacilli in butter are likewise a menace, therefore safe butter, whether pasteurized or certified, should be provided for their use.

CORRIGENDA

Page 697, *read* paragraph 3 following Table V
" " 4 " " VI
" " 5 " " VII

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